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ABSTRACT

The Alabama Adolescent Health Survey was a comprehensive survey of the knowledge and behaviors of eighth- and tenth-grade students in the public schools. The sample consisted of 3,803 students from school systems that were rural, metropolitan, and mixed. The survey measured student attitudes toward, and knowledge of: (1) mental health; (2) suicide; (3) violence; (4) substance use and age of initiation; (5) sexual attitudes and behaviors; (6) sexually transmitted disease; (7) Acquired Immune Deficiency; (8) safety; (9) weight control perceptions and practices; and (10) nutrition knowledge and practices. The results indicate that the youth in Alabama were very similar to the youth in a national survey. A large number of Alabama's adolescents are engaging in risky behaviors, some of which may have immediate health impacts whereas others may take years to materialize. Based upon the findings, a number of recommendations are made. (JD)

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SUMMARY REPORT

The Alabama Adolescent Health Survey: Health Knowledge and Behaviors of Grade 8 and 10 Students.

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SUMMARY REPORT

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INTRODUCTION

During the late 1960s a major study called the School Health Evaluation Study (SHES) was conducted. This comprehensive health survey of American adolescents provided direction and focus for adolescent health programs and courses of study during the late 1960s and early 1970s. Since the SHES there have been no comprehensive surveys of adolescents conducted to provide insights into program and curriculum development. In response to this need the National Adolescent School Health Survey was conducted in 1987. This comprehensive nation-wide survey was jointly sponsored by the American School Health Association, American Alliance for Health, Physical Education, Recreation and Dance, and the Society for Public Health Education.

The methodological framework of the national adolescent health survey was a stratified random sample of our nation's schools. Subsequently, the survey does not distinguish between geographical districts. One of the outcomes of the national survey has been the recommendation that states replicate the study to determine whether the national statistics are representative of individual states. This report has attempted to fulfill the national recommendation.

Alabama is the first state to follow-up on the national recommendation to conduct the individual state survey. We believe that this report will allow program administrators, educators and other interested parties to view adolescent health concerns and issues from a scientific perspective through this knowledge and behavior database of eighth- and tenth-grade Alabama students.

Steve Nagy

Anthony Adcock

QUESTIONNAIRE DEVELOPMENT

Data were collected using a modified version of the instrument used in the National Adolescent School Health Survey (NASHS) conducted in 1987. The three-form instrument design used in the NASHS was replaced with one questionnaire consisting of 112 items selected from the three forms of the NASHS instrument. Eight additional questions on sexual behavior and safety practices were added to the instrument by the researchers, for a total of 120 items. The questionnaire was reviewed by a team of four health educators and then pilot-tested with 100 grade eight students and grade ten students. On the average, the questionnaire could be completed in 30 minutes or less.

PARTICIPANTS

The sampling frame was to select three school districts in the northern half of the state and three from the southern half. Each region would include a rural district, one district in a moderately sized community and one in a metropolitan area. Although originally intended to be a random sample, sexual conduct questions were unacceptable to some superintendents and some superintendents decided not to participate in the study. Subsequently, the sample was one of convenience and included two rural districts and two moderately sized communities with one of each from the northern half and southern half of the state. Two metropolitan areas from the southern region agreed to participate.

Respondents of the study consisted of grade eight and grade ten students from randomly selected schools in districts where several schools were available. Researchers went into the schools and surveyed intact classes. Occasionally several intact classes were gathered together in a cafeteria, gymnasium or auditorium, and the instrument was administered to the classes in concert. Students were usually seated to allow for privacy and to respond unobserved by other students or members of the research team.

Students were provided with questionnaires, a computer answer sheet and a pencil. A member of the research team then read the instructions and students began. When completed, students took their answer sheets to a large enclosed box in a designated area and deposited it through the opening. Data were collected from all the students in the rural districts and at least 250 students from each grade level in the larger school districts.

RESULTS

The following tables represent selected items from the 120 items examined in the survey. Throughout the tables, references are made to Total, Metropolitan (Metro), Rural and National breakdowns. Membership of these categories are:

Total N = 3,803: This represents all Alabamian students. This group is composed of students from districts that are solely rural, solely metropolitan and some districts that are a rural and metropolitan mix.

Rural N = 766: This represents only rural students

Metro N = 1,657: This represents metropolitan students only.

National: This represents data from the national data set obtained from the national adolescent health survey. Information from the national data set has been incorporated where possible. This data set exceeds 10,000 students.

NOTE: ALL VALUES ARE PERCENTAGES IN EACH OF THE FOLLOWING TABLES UNLESS OTHERWISE INDICATED.

Demographic Characteristics

Percentage of Participating Students Sex by Age

	Age						
	<13	13	14	15	16	>16	Total
N =	35	942	585	1400	602	239	3803
Female	63	57	49	55	45	37	52
Male	37	43	51	45	55	63	48

Percentage of Participating Students Ethnicity by Age

	Age						
	<13	13	14	15	16	>16	Total
N =	35	942	585	1400	602	239	3803
White	69	71	50	68	53	45	62
Black	20	27	47	30	43	50	35
Other	11	2	3	2	4	5	3

Mental Health

Perception of dealing with stress

	Males		Females	
	Very Hard	Hard	Very Hard	Hard
Total	7	18	14	27
Rural	6	19	16	25
Metro	9	18	16	28
National	11	24	21	36

Tried to hurt self in a manner that might have resulted in death

	Yes	
	Males	Females
Total	12	19
Rural	11	16
Metro	13	20
National	11	18

During this past month...

	Males		Females	
Felt sad and hopeless	Often	Sometimes	Often	Sometimes
Total	10	25	20	41
Rural	6	31	25	41
Metro	11	26	20	41
National	15	35	34	39
Felt there was nothing to look forward to				
Total	8	15	13	23
Rural	8	15	15	27
Metro	9	16	14	24
National	9	18	18	29

Summary

Suicide is one of the leading causes of death among adolescents. In Alabama, rates have increased from about 10/100,000 in the early 1960s to about 30/100,000 in the late 1980s. Suicide occurs more frequently among teenagers who are under stress and are experiencing some form of depression. The data indicate that about one-quarter of the males in Alabama find it difficult to deal with stress while in excess of one-third of the females find it difficult. Although these figures average slightly lower than the national values, they still represent a large portion of our teenagers.

The data on depression are indicated in the items of felt sad and hopeless and felt there was nothing to look forward to. On both items, females have higher percentages than males. Using these items as a criterion, about one in five males indicated some form of mild depression while about one in three females responded similarly.

The item on suicidal behavior reflects percentages occurring at the national level. Twelve percent of the males indicated that they have displayed suicidal behavior as compared to 19% of the females. Although not all suicidal behaviors result in suicide, these figures indicate that large numbers of teens are at risk and are dissatisfied with their lives.

Suicide Knowledge

Students were asked to agree or disagree whether certain behaviors may indicate that a teen is thinking about committing suicide. There were seven items:

- ❒ avoid family friends
- ❒ act in rebellious, reckless manner
- ❒ show less interest in enjoyable activities
- ❒ have no hope that their life will get better
- ❒ say things such as "You won't have to worry about me much longer"
- ❒ give away favored possessions
- ❒ act unusual (beyond what is expected)

These items have been summed to develop a suicide knowledge questionnaire. Cronbach's alpha for reliability on this scale is .80. Correct responses were given a point value of 1 allowing for a *perfect score of 7*. The average number of correct responses were:

	Males	Females
Total	4.0	4.8
Rural	3.5	4.7
Metro	4.2	4.9
National	3.9	4.9

Summary

Suicide is a complex behavior and not all suicides display predictable signs before happening. However, many adolescents contemplating suicide have been known to display similar behaviors. Frequently the individuals most likely to observe these behaviors are peers of the at-risk individuals. It is therefore very important that adolescents distinguish if peers are displaying suicidal symptoms. The peers of the at-risk individual are the most likely group to be in a position to seek assistance. Knowledge of what these suicidal behaviors are therefore plays an important role in prevention.

Results from the data on knowledge of suicidal symptoms indicate that almost half of the symptoms go unrecognized. This demonstrates poor knowledge levels of students. When poor knowledge levels regarding suicide exist, this makes at-risk individuals more likely to succeed in this behavior. In conjunction with poor suicidal knowledge is the likelihood that these students will neither seek assistance nor are they likely to know where to go for assistance for peers when it is needed.

During the past year has someone attempted to

	Males			Females		
	Once	Twice	Three+	Once	Twice	Three+
Take something from you by force or threat						
Total	11	6	6	11	6	6
Rural	8	6	6	13	3	6
Metro	11	6	6	10	5	7
National						
(at school)	8	3	5	7	3	3
(elsewhere)	8	3	4	8	3	4
Attack you						
Total	9	3	4	5	2	3
Rural	7	2	5	7	2	3
Metro	9	2	4	5	2	3
National						
(at school)	10	4	3	6	1	2
(elsewhere)	13	3	5	5	3	4
Try to force you to have sex when you did not want to						
Total	3	2	4	10	4	7
Rural	4	2	5	10	3	9
Metro	3	3	5	11	4	8
National						
(at school)	1	1	2	3	1	2
(elsewhere)	2	1	3	10	4	5

Summary

The Alabama data on violence do not specify the site of the violent acts whereas the national data do. One would expect that many violent acts and threats overlap and occur in both school

and non-school settings. Many of the same students interact in both environments.

About one in five males and females have had something taken from them by force or threat during the past year. These rates reflect rates similar to those at the national level. National and Alabama comparisons are also similar for both males and females who have been attacked. Slightly more than 10% of the students have been assaulted.

Alabama rates again reflect national findings for students experiencing attempted rape. About 5% of the males and 20% of the females have experienced attempted rape. These factors are likely to increase stress levels and have negative effects on mental health.

Substance Use and Age of Initiation

	Males		Females	
Rode with a drinking driver during past month	1-3 Times	4 or More	1-3 Times	4 or More
Total	17	17	18	12
Rural	18	18	17	11
Metro	17	17	20	13
National	21	17	27	14
Cigarettes during past month	5-19	1-5 Packs	5-19	1-5 Packs
Total	6	12	4	9
Rural	5	8	3	6
Metro	6	13	5	11
National	4	4	4	6
Chew or snuff during past month	3-5 Times	6 or More	3-5 Times	6 or More
Total	3	11	0	1
Rural	2	9	0	0
Metro	3	10	0	2
National	6	6	1	0
Five drink occasions during last 2 weeks	Once	Two or More	Once	Two or More
Total	13	23	6	14
Rural	11	21	10	12
Metro	14	24	11	16
National	13	20	15	16

Marijuana use during past month	Males		Females	
	Once	Two or More	Once	Two or More
Total	6	9	3	5
Rural	7	6	3	4
Metro	6	10	3	5
National	5	7	5	4

Grade of Drug Initiation

	Males					Females				
	Never	≤ 4	5-6	7-8	9-10	Never	≤ 4	5-6	7-8	9-10
Smoking										
Total	47	16	18	15	4	52	10	15	17	6
Rural	47	16	21	13	3	55	11	14	15	5
Metro	46	15	16	17	6	52	9	15	17	7
National	43	12	21	19	5	43	10	19	20	8
Marijuana										
Total	76	4	7	9	4	86	1	3	7	3
Rural	81	2	6	7	4	89	1	2	6	2
Metro	82	5	7	10	6	86	2	3	7	4
National	73	2	5	13	7	78	1	3	10	8
Cocaine										
Total	92	2	1	3	2	96	1	1	1	1
Rural	92	3	1	3	1	96	1	1	1	1
Metro	89	3	2	3	3	97	1	0	1	1
National	94	0	1	3	2	93	0	1	4	2
Inhalants										
Total	82	4	5	7	2	86	3	3	5	3
Rural	84	4	5	6	1	91	3	2	3	1
Metro	77	5	6	8	4	83	3	3	7	4
National	83	4	5	6	2	83	3	5	7	2
Alcohol										
Total	37	14	19	23	7	44	8	12	25	11
Rural	40	13	19	24	4	49	9	10	22	10
Metro	34	15	18	25	8	41	8	14	25	12
National	18	13	21	33	15	19	8	19	39	15

Summary

Although riding with a drinking driver is a safety issue, we have elected to report on this behavior in the drug section. It is a high-risk behavior for adolescents because so many die in automobile accidents. Individuals also must acknowledge that riding with a drinking driver is not necessarily a student-initiated behavior. We have not differentiated between parental and peer driving while under the influence.

Approximately one in three adolescents have ridden with a drinking driver during the past month. Almost half of these students have done so four or more times. These behaviors are high-risk behaviors and identify the need for a high emphasis on students adopting decision-making skills to enhance refusal of riding with drinking drivers.

Cigarette consumption during the past month indicated that 12% of the males report consumption of 1-5 packages while 9% of the females reported similarly. These levels are considerably higher than national levels. Alabama has higher than normal rates of cardiovascular disease and some types of cancers. Since tobacco consumption is an identified risk factor in the development of these diseases, efforts should be enhanced to prevent tobacco use/addiction of the young. Current Alabama initiatives seem to be less effective than those at the national level.

Problem alcohol consumption where students have consumed five or more drinks at one sitting occurs in about one in three males while one in five females report similar behaviors. These rates are similar to national levels except for Alabama females where rates are slightly lower. However, rates are still unacceptably high.

Marijuana use during the past month is similar in Alabama to the national levels. About 10% of males and 5% of females report usage of marijuana two or more times during the past month.

Examination of the data by grade level of initiation indicates that all drug consumption behaviors have been initiated by some students at or before the grade four level. This demonstrates the need for early interventions. Programs need to start at or before the grade four level to precede the adoption of these behaviors by some students.

Sexual Attitudes and Behaviors

	Males		Females	
	Definitely Agree	Probably Agree	Definitely Agree	Probably Agree
Believe it is OK to say "No" to sex				
Total	50	18	80	7
Rural	41	19	73	9
Metro	49	18	78	8
National	53	23	83	11

	Males		Females	
	Definitely Agree	Probably Agree	Definitely Agree	Probably Agree
It is OK to have sex when dating for a long time				
Total	41	24	19	26
Rural	44	23	22	22
Metro	41	25	20	25
National	40	32	14	29
It is OK to have sex with several different people				
Total	14	9	5	3
Rural	13	7	5	3
Metro	14	9	6	3
National	9	10	2	2

Has had sexual intercourse Yes

	Males	Females
Total	62	38
Rural	70	41
Metro	66	40

Note: The national study did not examine sexual behaviors of students.

Age of First Intercourse

	Males				Females			
	10 or less	11-12	13-14	15-16	10 or less	11-12	13-14	15-16
Total	23	29	35	13	10	19	47	24
Rural	16	32	37	15	10	19	49	22
Metro	26	26	35	13	11	21	42	26

Note: The national study did not examine sexual behaviors of students.

Frequency of Sex

	Males					Females				
	Rarely	Some-times	Several/ week	Every day	Not sure	Rarely	Some-times	Several/ week	Every day	Not sure
Total	38	31	10	8	13	46	28	8	6	12
Rural	38	30	10	8	14	38	30	12	5	15
Metro	36	32	8	9	15	48	26	7	7	12

Note: The national study did not examine sexual behaviors of students.

Use birth control

	Males				Females			
	Rarely	Some-times	Quite often	Always	Rarely	Some-times	Quite often	Always
Total	33	15	13	39	43	1	27	38
Rural	31	17	13	39	31	16	11	42
Metro	35	15	14	36	50	11	7	32

Note: The national study did not examine sexual behaviors of students.

Summary

Alabama students display sexual attitudes similar to those in the national study. About three-quarters of the males and more than 90% of the females believe it is okay to say no to sex. The sexes display different attitudes toward having sex when dating for a long time. About three-quarters of the males indicate it is okay under these circumstances while a little more than 40% of the girls say it is okay. It is important to note that dating for a long time is undefined and may be interpreted differently by adolescents than by adults. When asked if it is okay to have sex with several different people about one in five males agree whereas less than 5% of the females agree.

When examining sexual behavior, almost two-thirds of the males indicated that they had experienced sexual intercourse whereas about 40% of the females indicated similarly. It is interesting to note that about 40% of females say it is okay to have sex when dating for a long time and about 40% of the females are sexually active. There may be a strong possibility that many girls behave in conjunction with their attitudes about dating for a long time and becoming sexually active. Interventions may wish to explore the usefulness of changing how girls define (perceive) dating a long time and how these changes may alter sexual behavior.

The majority of students who are sexually active indicate that they have intercourse infrequently. Eighteen percent of active males and 14% of active females have sex several times per week or daily. Much of this sexual behavior occurs without birth control with slightly more than one-third of the sexually active indicating that they use birth control regularly. It is important to note that birth control goes undefined and it is very likely that effective birth control is used by a smaller percentage.

Age of first intercourse displays different profiles for both males and females. The majority of sexually active males indicated that age of first intercourse occurred before age 13. Almost half of the sexually active girls indicated that they became active while 13 or 14 years of age. Due to the discretionary nature of the questionnaire, students were not asked about the nature of their first sexual intercourse experience. It remains undetermined as to whether their experience was self-initiated or a result of forced sex or incest.

The sexual behavior of students paints a dismal picture. High numbers of students are sexually active in their early years. Coupled with low use of birth control and poor knowledge levels of sexually transmitted disease one would expect Alabama teenagers to have high rates of teenage pregnancy and high rates of sexually transmitted diseases.

Sexually Transmitted Disease (STD) Knowledge

Students were asked if the following are common early signs of sexually transmitted disease (STD):

- ❒ low abdomen pain (in females)
- ❒ nausea
- ❒ discharge of pus from sex organs
- ❒ coughing
- ❒ headache
- ❒ sore on the sex organ
- ❒ pain when going to the bathroom

The items above have been combined to form an STD knowledge scale. Cronbach's reliability estimate for this scale was .80. Correct responses were given a point value of 1 allowing for a *perfect score of 7*. The average number of correct responses were:

	Males	Females
Total	2.2	2.4
Rural	1.9	2.2
Metro	2.2	2.5
Sexually Active	2.1	2.6
Abstainers	2.2	2.3
National	3.2	3.5

Summary

As can be observed, knowledge levels regarding sexually transmitted disease (STD) symptoms are very low. Poor knowledge of symptoms is likely to reduce the number of sexually active individuals seeking treatment for STDs. Although high knowledge of STD symptoms does not necessarily mean individuals will seek treatment, knowledge of symptoms is a precursor to seeking treatment. It appears that very few students in Alabama receive formal instruction in the recognition of STDs.

AIDS Knowledge

Students were asked if certain behaviors made it more likely for a person to become infected with the AIDS virus.

- ❒ sex with a person who has the AIDS virus
- ❒ having more than one sex partner
- ❒ having sex with several partners
- ❒ sharing drug needles
- ❒ shaking hands with a person with AIDS
- ❒ hugging person with AIDS
- ❒ donating blood
- ❒ being in a classroom with someone who has AIDS

Students were also asked whether the following were true.

- ❒ people with AIDS die from the disease's complications
- ❒ pregnant mothers can infect their babies
- ❒ people must be sick to spread AIDS
- ❒ a vaccine is available for AIDS

The items were all included in the development of an AIDS knowledge scale. Cronbach's reliability estimate was .80. Correct responses were given a point value of 1 allowing for a *perfect score of 12*. The average number of correct responses were:

	Males	Females
Total	7.9	9.0
Rural	8.0	9.0
Metro	8.0	9.0
Sexually Active	8.0	9.0
Abstainers	8.6	9.3
National	8.4	8.7

Summary

It appears that knowledge levels regarding AIDS are better than those regarding STDs. One must keep in mind that there have been national and media initiatives to keep the public informed about AIDS whereas STDs go relatively undiscussed. Knowledge levels regarding AIDS are very similar for all groups examined. It is also interesting to note that national knowledge levels about AIDS (1987) are similar to those of Alabama students (1988). However, Alabama students were some of the first in the nation to receive a formal instructional unit on AIDS education. The majority of the nation had no AIDS instruction during the time of the national study. It remains to be determined why Alabama's knowledge levels do not exceed national knowledge levels when our students should have received an instructional unit on the topic.

Safety

	Rural		Metro	
	Males	Females	Males	Females
Have a smoke detector at home	63	64	71	74
When there is no sidewalk you walk facing cars	50	60	43	46
Wear a helmet when riding a motorcycle	32	74	53	51
Wear a seat belt (always/most of the time)	28	34	40	48
Past month rode with a drinking driver	36	28	34	33

Note: Values are percentages of positive responses. There are no comparisons with the national data on these items.

Summary

The data indicate that not enough Alabama adolescents are practicing safety behaviors. Safety behaviors have an immediate effect on health by reducing the number of fatalities or accidents relative to the safety behavior being practiced. A good example of this is seat belt utilization. If more individuals use seat belts, fewer lives will be lost in accidents and the severity of accidents will be reduced. These low rates of seat belt utilization where less than half of the adolescent use seat belts are especially depressing when one examines the literature on seat belt research. The literature indicates that individuals usually overly report their seat belt utilization.

Children are usually taught safety rules and practices in their elementary years. The data on safety behaviors indicate that safety education has not been reinforced by additional educational efforts. One also would expect that there is a lack of parental and community emphasis of safety behaviors.

Weight Control Perceptions and Practices

Breakfast consumption the past week

	Males					Females				
	None	1-2	3-4	5-6	Always	None	1-2	3-4	5-6	Always
Total	17	20	13	9	41	24	30	12	7	27
Rural	15	21	13	9	42	20	33	10	8	29
Metro	18	22	14	10	36	26	31	12	7	24
National	13	20	13	10	44	18	29	16	8	29

* No data are available on the national rates of occurrence.

Weight perceptions of self*

	Males			Females		
	Under	OK	Overweight	Under	OK	Overweight
Total	22	64	14	13	59	28
Rural	20	67	13	14	59	27
Metro	23	62	15	13	61	26

* No data are available on the national rates of occurrence.

Perceived fitness of self*

	Males					Females				
	Excellent	Good	Fair	Low	Very Low	Excellent	Good	Fair	Low	Very Low
Total	25	47	24	3	1	12	37	42	8	1
Rural	24	49	24	3	0	8	42	41	8	1
Metro	25	48	22	4	1	14	35	42	7	2

* No data are available on the national rates of occurrence.

Times students have attempted to lose weight during past year*

	Males				Females			
	0	1	2	3 or More	0	1	2	3 or More
Total	76	12	6	6	43	18	17	22
Rural	76	11	7	6	46	11	5	23
Metro	76	12	6	6	41	19	19	21

* No data are available on the national rates of occurrence.

Summary

Breakfast consumption has traditionally been considered the most important meal of the day. This opinion is still upheld by nutrition experts who indicate that it is important to start

the day off with good nutrition. The data indicate that about one in five adolescents never eat breakfast. Indications are that only about 50 percent of the adolescents eat breakfast the majority of the time. Not eating breakfast often results in individuals overeating later in the day to compensate their missing meal.

It is interesting to examine how our adolescents perceive their weight and fitness status. The literature indicates that most people tend to underestimate whether or not they are overweight. Similarly, the research literature is indicating that our current adolescent population is fatter than any that have proceeded them. The data in this study indicate that slightly more than one in ten males and about one in four females perceive themselves as being overweight. However the percentage of adolescents who have attempted to lose weight in the past year exceeds those who perceive themselves as overweight by 10 to 25%. Either students feel that they need to be underweight or they refuse to acknowledge that they are overweight. Future research will need to resolve these issues.

The following examines students who have attempted various methods of losing weight.

	Alabama			National		
	Never	Sometimes	Most of the time	Never	Sometimes	Most of the time
Fewer Calories						
Males	49	38	13	35	41	24
Females	24	42	34	16	45	39
Use Pills						
Males	83	11	6	89	9	2
Females	82	12	6	81	14	5
Exercise More						
Males	23	34	43	7	27	66
Females	11	39	50	5	37	58
Skip Meals						
Males	48	38	14	34	45	21
Females	23	40	37	25	41	34
Use laxatives						
Males	80	14	6	91	6	3
Females	88	9	3	93	6	1
Eat only fruit						
Males	51	40	9	35	52	13
Females	46	45	9	35	54	11

	Alabama			National		
	Never	Sometimes	Most of the time	Never	Sometimes	Most of the time
Eat only high protein foods						
Males	47	40	13	42	46	12
Females	59	34	7	49	43	8
Eat only salads						
Males	52	37	11	44	45	11
Females	39	46	15	32	52	16
Fast						
Males	57	34	9	57	29	14
Females	44	37	19	45	33	22
Throw up (vomit) after eating						
Males	81	14	5	90	8	2
Females	84	11	5	87	9	4

Have you ever felt out of control when eating*	YES
Males	22
Females	30

*No data are available on the national rates of occurrence.

Have you vomited on purpose after eating (times per month)*	1	2 - 3	3+
Males	11	3	2
Females	11	3	2

*No data are available on the national rates of occurrence.

Summary

The data on weight loss methods are obtained from the 25% of the males and slightly more than half of the females who indicated that they had attempted to lose weight during the past year. Comparisons between Alabama adolescents and adolescents from the national study indicate some differences but in most cases both data sets present similar pictures.

Somewhere between 10 to 20% of these adolescents seem to regularly practice the weight loss methods examined. These methods are acknowledged to be poor methods of dieting. Students either do not know how to lose weight properly, or do not believe in the efficacy of proper methods of weight control or loss. Indications are that this is an area of considerable need especially to the girls of whom more than 50% admit to using these methods of weight control.

Nutrition Knowledge and Practices

Consumption Rates*

	Metro		Rural	
	Males	Females	Males	Females
Cheese	8/19	8/13	8/15	7/15
Milk	39/34	25/29	34/37	18/33
Eggs	4/13	3/10	5/18	3/11
Beans	5/14	4/9	5/12	3/7
Fruits	25/34	26/31	21/27	20/28
Vegetables	15/36	15/39	17/34	18/37
Red meat	10/29	10/25	11/26	7/29
Fish and poultry	3/9	4/10	6/11	2/10
Fried foods	9/18	10/15	8/13	13/11
Candy	40/26	41/28	42/30	54/28

*Consumption rates are designated as More Than Once a Day/Once a Day for each type of food

Percentage knowing that saturated fat is associated with heart problems

	Males	Females
Total	68	66
Rural	66	65
Metro	68	64
National	72	74

Cut off the fat or remove skin

	Males		Females	
	Red Meat	Fowl	Red Meat	Fowl
Total	64	15	76	19
Rural	61	13	77	17
Metro	65	15	74	18
National	69	21	78	25

Salt Use	Males			Females		
	Add before tasting	Taste first	Rarely use	Add before tasting	Taste first	Rarely use
Total	20	49	31	20	47	33
Rural	20	50	30	23	51	26
Metro	19	44	37	21	44	35
National	18	43	39	18	45	37

Summary

Knowledge levels and eating behaviors among the males and females and rural and metropolitan students show minimal differences among these comparisons. About two-thirds of the adolescents recognized that saturated fat is associated with health problems. This same percentage practiced the removal of fat from red meat indicating positive health behaviors. These behaviors however, did not translate to the removal of skin from fowl before eating. About one in five students indicated the practice of adding salt to food before tasting, which could be considered a poor health practice.

When one examines the types of foods students consumed daily or more than once per day there is an indication of poor dietary practices by a substantial number of students. Although the data are not comprehensive about dietary consumption there seem to be some consistencies that warrant discussion and perhaps additional research.

Adolescents should be consuming adequate calcium to ensure maximum bone density and growth during the formative years. Students at this age should receive at least the equivalent of three to four glasses of milk per day. Approximately one-third of the students indicated that they drank milk daily or more than once per day. The consumption of cheese and eggs which would be other primary sources of calcium was also low with about one-quarter of the students having consumed cheese daily and about 15% having consumed eggs. Although students may be obtaining calcium from other sources, milk, cheese and eggs are likely to be the primary sources. Subsequently, it seems prudent to conclude that calcium consumption is low in this age group.

Another area of dietary concern is consumption of fruits and vegetables. About half of the students reported daily consumption of fruits as well as vegetables. This is well below recommended dietary allowances. Although students may be obtaining fiber from other sources (cereals), the fiber and nutritional density obtained from fruits and vegetables is generally considered very important in a health promoting diet.

Red meat consumption appeared to be high. In excess of one-third of the students indicated daily or more than daily consumption of red meat. Individuals are recommended to consume three to five helpings of red meat per week and this recommendation is not being met by the one-third of students who reported daily consumption. The saturated fat content of red meat can contribute to the advent of cardiovascular disease, certain cancers and diabetes in susceptible individuals.

An overview of nutrition knowledge and practices indicates that knowledge levels may be too low. One would expect more than two-thirds of the students to recognize that saturated fat is associated with health problems. If this knowledge level is consistent regarding other nutritional concepts, there is a low likelihood that students will adopt better dietary practices. About one-third to one-half of the students report dietary practices that indicate inadequate calcium, inadequate fruits and vegetables (fiber) and excess saturated fat and salt. These behaviors contribute to the development of diseases especially in predisposed individuals. There is need for more information regarding knowledge levels and eating behaviors in this age group to gain a comprehensive perspective of nutritional and dietary needs.

DISCUSSION AND RECOMENDATIONS

It is important to recognize the limitations of the study under review. The data are self-report; subsequently, one needs to use caution in the interpretation of findings. In addition, the sample surveyed was not entirely random since some superintendents refused to cooperate and were replaced by others who were more favorable to an evaluation of their students. There is always a possibility that these school districts may differ somehow from their counterparts. However as researchers, we believe that the large number of respondents and the similarity of responses from the Alabama results to the national results increases the reliability and credibility of the data.

A review of the previous tables indicates that the health behaviors of a large portion of Alabama adolescents consist of risky behaviors some of which may have immediate health impacts whereas others may take years to materialize. High risk behaviors such as riding with drinking drivers, low use of safety belts, having unprotected sexual intercourse and suicidal behaviors all have strong, immediate negative health consequences. Other behaviors such as poor nutritional practices, substance abuse, and poor knowledge of sexually transmitted diseases and AIDS increases the probability of disease occurrence in later life.

It is important to recognize that most of these high risk, negative health behaviors do not necessarily occur in school settings. Students consume drugs off the school campus, are sexually active off campus, experience stress off and on campus as well as practice poor nutritional habits both on and off campus. Indications are that we cannot just conclude that our schools have problems—*our communities have problems.*

Since students spend in excess of 10,000 hours of their developmental years at school, the school is an excellent setting for some interventions to address many health issues/problems. However additional responsibilities in this area for schools also requires substantial state and community commitments for resources and personnel to have a beneficial effect on student health behaviors. The current financial status of schools precludes effective health educational efforts in most schools since schools already are underfunded and understaffed to meet current commitments. Furthermore, one must realize that schools are part of a larger community setting. Efforts for encouraging positive adolescent health behaviors must also extend into the surrounding community to reinforce positive health messages.

Since it has taken a number of years to evolve to the current state of affairs it is safe to say that there are no immediate solutions to the current practices and risky behaviors of our youth. Ameliorating the behaviors and health of our youth requires a long-term plan versus the

current band aid-crisis approaches. Efforts will require the cooperation of a number of organizations and state agencies to share resources and consistently reinforce the need for comprehensive and consistent health promotion.

The following recommendations are presented keeping in mind the limited information in this report. Our motive is not to necessarily have people use these recommendations as they have been provided. Rather, we hope that these recommendations will be used as a basis for discussion and a framework for improving the health of our youth. Remember, our schools do not have problems - our communities have problems. Since students spend most of their day in school, it seems wise for communities and schools to work together to promote health.

RECOMMENDATION: THERE SHOULD BE A FIVE- AND TEN-YEAR STATE-WIDE PLAN FOR ADOLESCENT/CHILD HEALTH ENHANCEMENT.

Current health initiatives focus on health behaviors as though these behaviors are independent. Subsequently, there are drug prevention initiatives being implemented/considered independent of other behaviors such as safety, pregnancy and mental health. The legislature should consider the appointment of a permanent task force created by the legislature to review prevention initiatives to ensure that they are comprehensive in scope. The task force should have a multidisciplinary focus with a core of experts in school and community health. The task force should have a behavioral versus medical orientation.

RECOMMENDATION: THE ADOLESCENT/CHILD HEALTH TASK FORCE SHOULD MAKE A YEARLY REPORT TO THE LEGISLATURE.

This group should make a yearly report to the legislature and have the authority to "encourage" joint public health-school health initiatives. Furthermore, support personnel of the task force should include one or two coordinators in each public health area. The function of these coordinators should be to

- ❒ oversee that quality school health instruction is being encouraged
- ❒ determine that schools adequately access public health services
- ❒ initiate community-school health interventions for youth.

The ideal person for such a coordinator position would be a nurse who also has obtained a certified degree in health education.

RECOMMENDATION: THERE NEEDS TO BE AN INVESTIGATION CONDUCTED TO DETERMINE WHY CURRENT HEALTH EDUCATION EFFORTS ARE NOT MORE EFFECTIVE.

A research initiative should undertake to determine why health education objectives are not being achieved. This research should address personnel responsible for health education, curricula being used and the preparation of those involved in health education. The intent of

this research should be to ensure the delivery of effective health education at the correct grade level(s) to maximize positive health behaviors of adolescents and children.

RECOMMENDATION: THERE SHOULD BE A STANDING COMMITTEE OR TASK FORCE TO ENSURE COMMUNICATION BETWEEN STATE DEPARTMENTS OF EDUCATION, PUBLIC HEALTH AND MENTAL HEALTH AND INSTITUTIONS OF HIGHER EDUCATION.

A focus of these communications should be to

- ❒ allow for joint efforts in health promotion.
- ❒ forecast training needs of personnel in the upcoming 5 to 10 years to allow institutions of higher education to develop curriculum for these programs.
- ❒ develop comprehensive programs/planning to enhance the health of adolescents and children.

State departments and institutions of higher education should develop philosophical statements to acknowledge their priorities and commitments to adolescent and child health enhancement.

RECOMMENDATION: THIS SURVEY OR A MODIFICATION THEREOF SHOULD BE REPEATED AT LEAST EVERY FOUR YEARS TO SERVE AS A MECHANISM THAT MONITORS THE HEALTH KNOWLEDGE AND BEHAVIORS OF ALABAMA ADOLESCENTS.

Program administrators and related personnel need accurate and current information regarding adolescent behaviors. This information can be used to help direct ongoing programs and initiatives. These databases need to be conducted by researchers who are independent of state agencies. Furthermore, the report should go to the legislature and become public domain.

CLOSING REMARKS

We hope that individuals reading this report will recognize the need for improving the health status of our youth. Because the problems are multifactorial in nature, we will need comprehensive efforts involving many agencies and arms of government and communities to ameliorate health problems. It is only through cooperation and joint initiatives that we will see progress. It is our hope that this report will in some way enhance the process.

Respectfully submitted to the people of Alabama,

Stephen Nagy

Anthony Adcock